

ABSTRACT OF THE DISCLOSURE

A cold start fuel control system is disclosed for use with an internal combustion engine having a plurality of combustion chambers, a source of fuel and an intake manifold having an inlet and an outlet port connected to each combustion chamber. The system includes a cold start fuel injector assembly having an inlet and an outlet to provide a vapor fuel charge during a cold start engine condition. The cold start fuel injector assembly inlet is fluidly connected to the source of fuel. An auxiliary intake manifold has an internal chamber and the cold start fuel injector assembly outlet is fluidly connected to the auxiliary intake manifold chamber. The auxiliary intake manifold chamber is then fluidly connected through a control orifice to each of the combustion chambers at a position downstream from the inlet of the primary intake manifold. A control circuit optionally controls the area of the control orifice to minimize noxious emissions from the engine and a shroud is optionally associated with each control orifice to enhance mixing of the vapor fuel with the inducted airflow to also minimize noxious emissions from the engine.